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Department of Health Services
Joseph Munso, Acting Director

California Morbidity

State of California
Gray Davis, Governor

The California Tobacco Control Program Series
Article 1: Fewer Smokers, Fewer Smokes

Background

In November 1988, California voters passed Proposition 99, the Tobacco Tax and Health Protection Act. This act, which became effective January 1, 1989, established and provides ongoing funding for the California Tobacco Control Program (CTCP) by increasing the excise tax on a pack of cigarettes by $0.25. The CTP includes programs run by both the California Department of Education (CDE) and the California Department of Health Services (CDHS). The purpose of this article, the first of a series of three, is to report on progress made in California toward reducing the use of and changing the social norms about tobacco. Particular attention will be paid to the CDHS program: the Tobacco Control Section (TCS) of the Cancer Control Branch, Division of Chronic Disease and Injury Control.

Structurally, TCS is comprised of four groups: an administration/contract-monitoring group; an evaluation group; a media group; a local programs group. In addition, through the local programs group, numerous contracts are administered, including contracts with all of the county-based (and three city-based) health departments, with competitive grantees, with regionally administered programs, and with racial/ethnic networks. Conceptually, TCS has developed its programmatic efforts around three foci: creating smoke-free environments; reducing youth access to tobacco; and countering pro-tobacco influences. Thus, TCS has built a comprehensive, multi-faceted approach to reducing the tobacco burden in California. Furthermore, TCS (together with the smaller and lesser-known CDE programs), continues to serve as a model to other states, the federal government, and other countries, on how to impact tobacco use, the number one preventable cause of disability and death in developed countries.

Introduction

It is TCS contention that when program efforts, implemented properly within suitable populations and having one or more of the three above-mentioned foci (along with the potential for positive interaction) are successful, changes in attitudes, perceptions, and norms of California youth and adults (and organizations) will follow. Furthermore, these social norm changes will ultimately lead to reductions in smoking prevalence and consumption, the "harder" measures tracked by TCS. In fact, California-specific data collected through TCS, when compared to data collected prior to the implementation of CTCP, support this contention. Furthermore, California-specific data collected during the time during which CTCP has been in existence, when compared to national data collected during the same time period, lend additional support to this contention. Therefore, the purpose of this article is to present data, to show that TCS has successfully impacted the tobacco burden in California through its aggressive and comprehensive norm-changing approach. This article, which addresses measures of smoking prevalence and consumption, is the first in a series of three articles; the second and third articles address environmental tobacco smoke and tobacco industry marketing practices, respectively.

Methodology

In tracking the "harder" measures of programmatic effects (i.e., the California adult smoking prevalence (ASP), the California youth smoking prevalence (YSP), and California cigarette consumption (CC)), in addition to looking cross-sectionally at a given point in time, trend lines have been graphed, and changes in these trend lines over time have been assessed. Moreover, when possible and appropriate, special attention has been paid to assessing what has been happening with these hallmark indicators during the time periods before and/or during

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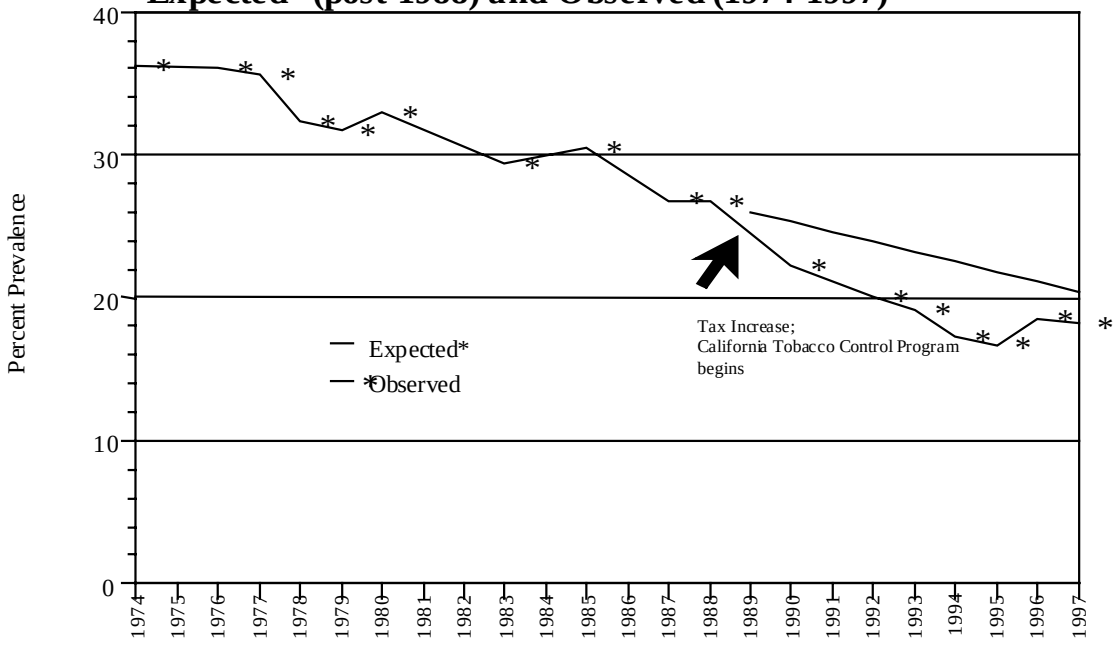
which CTCP has been in existence. For ASP and CC, using data collected both before and during the time during which CTCP has been in existence, regression analyses were performed to determine the degrees to which ASP and CC observed trend lines differed from expected trend lines with the passage of time -- in large part due to the presence of CTCP per se. The January 1, 1989, start of CTCP was carefully considered in these analyses. For YSP, because no pre-CTCP California-specific YSP data exist and because the methodologies of the national surveys and the California-specific survey differ, the average annual rates of change for the nation and for California during the time during which the program has been in existence (as opposed to YSP magnitudes) were determined and compared.

The data sources for the regression analyses and the average annual rates of change calculations are the following: 1974 through 1997 ASP data were obtained from the National Health Interview Survey, the California Tobacco Survey (CTS), the Behavioral Risk Factor Survey, and the California Adult Tobacco Survey; 1990 through 1997 YSP data were obtained from the Youth Risk Behavior Survey (YRBS), the CTS, and the California Youth Tobacco Survey (CYTS); and 1980 through 1997 CC data (packs of cigarettes sold) were obtained from the California Board of Equalization.

Results

First, using the regression equations developed for ASP and CCC, the ASP for 1997 (in the absence of CTCP) was predicted to have been 20.4%; it was observed to be 18.1% (Figure 1).

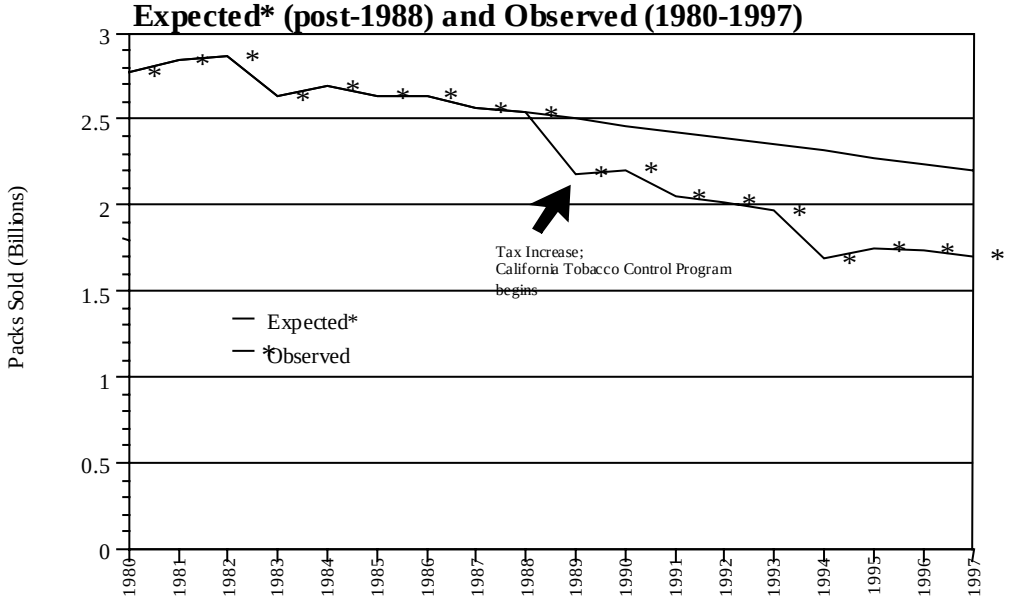
Figure 1. Adult Smoking Prevalence for California
Expected* (post-1988) and Observed (1974-1997)



* Had the pre-1989 trend, prevailing at the time The California Tobacco Control Program began, continued;
Sources: 1974-1988: National Health Interview Survey (Age 20+), NCHS;
1990, 1992-3: California Tobacco Survey (Age 18+), UCSD;
1994-7: California Adult Tobacco Survey [CATS] & Behavioral Risk Factor Survey [BRFS] combined, CDHS;
Note: The CATS/BRFS definition changed slightly in 1996 to match changes instituted by the CDC.
Prepared by: Tobacco Control Section, California Department of Health Services, 1997

In addition, the CC for 1997 (in the absence of CTCP) was predicted to have been 2.2 billion; it was observed to be 1.7 billion (Figure 2).

Figure 2. Packs of Cigarettes Sold in California
Expected* (post-1988) and Observed (1980-1997)



* Had the pre-1989 trend, prevailing at the time The California Tobacco Control Program began, continued;
Source: California State Board of Equalization
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Next, the average annual rate of change in YSP for the nation from 1991 through 1997 (using YRBS data) was determined to be approximately 4.8% per year; for California during 1990 through 1997 (using CTS and CYTS data), it was determined to be approximately 2.9% per year (Table 1).

Table 1:

Average Annual Rate of Change (AAROC) in Youth Smoking Prevalence (YSP)
United States (1991-1997) and California (1990-1997)

	YSP @ time 1	YSP @ time 2	AAROC in YSP
United States	**27.5**	**36.4**	**4.8% per year**
California	**9.1**	**10.9**	**2.9% per year**

Sources: California Tobacco Survey (1990, 1992-3) - UCSD; California Youth Tobacco Survey (1994-7) - CDHS; Youth Risk Behavior Survey data reported in MMWR Vol. 45, No. 20, and in Vol. 47, No. 12 - CDC;

Note: Due to methodological differences, the magnitudes of the California-specific YSP estimates are not comparable with the magnitudes of the United States-specific YSP estimates; rather, only the trends can be compared.

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Finally, stratified 1997 ASP and YSP data are presented in order to foster an understanding of what was happening as of December 31, 1997, within certain population sub-groups in California (Table 2).

Table 2.
California Adult and Youth Smoking Prevalence Estimates and 95% Confidence Intervals (CI) In Total and By Race/Ethnicity, Gender, and Age Group, 1997

Category	Adult Prevalence	95% CI
Total	18.2	(17.4-19.1)
White	19.2	(18.1-20.2)
Black	24.9	(20.7-29.1)
Hispanic	14.9	(13.3-16.6)
Other	15.2	(12.6-17.9)
Male	21.4	(20.1-22.8)
Female	15.1	(14.0-16.1)
18-24	20.7	(17.8-23.5)
25-44	19.3	(18.1-20.6)
45-64	19.7	(18.1-21.4)
65+	9.0	(7.5-10.4)
	Youth Prevalence	**95% CI**
Total	10.9	(9.7-12.1)
White	12.5	(10.7-14.2)
Black	3.6	(0.8-6.4)
Hispanic	11.9	(9.9-14.0)
Other	6.8	(3.6-9.9)
Male	10.7	(9.1-12.3)
Female	11.1	(9.4-12.8)
12-13	3.3	(2.1-4.4)
14-15	9.6	(7.7-11.6)
16-17	20.5	(17.8-23.2)

Sources: 1997 California Adult Tobacco Survey (CATS)+Behavioral Risk Factor Survey (BRFS) - CDHS;
1997 California Youth Tobacco Survey (CYTS) - CDHS;
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Note: Denominators are revised California Department of Finance population estimates for 1990 (adults) and 1996 (youth)

Conclusions

These data suggest that CTCP has (1) accelerated the declines in both ASP and CC that were occurring before the program's start and (2) prevented (in the face of the tobacco industry's continuously-increasing youth-focused advertising and promotional campaign) an upswing in YSP of the same magnitude as that of the national level.

The extent to which CTCP has made an impact is, therefore, evident: the observed 1997 ASP (18.1%) means that 0.5 million California adults who would have been smoking are not doing so, and the observed 1997 CC (1.7 billion) means that an additional 3.8 billion packs of cigarettes which might have been sold in California during the program's existence were not sold. Moreover, it is clear that by comparison to the rest of the nation, California has been moderately successful in addressing the toll tobacco is taking on youth. Finally, though impressive strides have been and continue to be made in California with respect to reducing the tobacco burden, efforts like that of CTCP are still very much warranted. Not until tobacco use is an historical phenomenon can CTCP and similar efforts cease.

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